

A STATEMENT ON  
METAPHORIC SENTENCES

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## ABSTRACT

This paper aims at pointing out the differing interpretations of metaphoric sentences' comprehension as developed in the recent psycholinguistic literature. The inadequacies of the psycholinguistic theories of language processing which rest on the assumption according to which language is the expression of a relatively autonomous cognitive activity are highlighted in the interpretation of metaphors as anomalous sentences. The rejection of the thesis of the anomalous character of metaphors due to the acknowledgement of the role of the semantic component of words, of the extra-linguistic context in which metaphors are produced, and more generally of the pragmatic factors influencing comprehension, invited the new view according to which metaphors are to be conceived as conveying some cognitive re-organization. The ecological approach to cognitive activity stressing the role played by the 'events' in modeling comprehension can be regarded as the best theoretical frame according to which it is possible to establish a link between language and perception and redefine the whole problem of language use.

## A STATEMENT ON METAPHORIC SENTENCES

### - Introduction

In what follows I will argue that for a sound psychological understanding of cognitive human activity, meaning has to be re-defined on wider, extralinguistic grounds, considering perception as well as shared knowledge of world events.

The inadequacies of the current psycholinguistic theories of language processing, which are based on a purely linguistic interpretation of meaning, will be highlighted with special reference to the study of metaphorical sentence comprehension.

In its simplest form, the so called nominal metaphor, a metaphorical sentence is one in which the name referring to a person, object, fact, or event is given a different name which refers to a different person, object, fact, or event. So the sentence 'My surgeon was a butcher' is a metaphor since a name, the so-called 'topic', in this case 'surgeon', is given another name, the so-called 'vehicle', in this case 'butcher'.

Upon hearing this sentence, the listener understands what the sentence



is meant to convey: the person who uttered it was really dissatisfied with his surgeon.

The listener comprehends the meaning of the sentence because there are some properties shared by both the topic and the vehicle; a sub-set of the properties of the vehicle are referred to the topic. The set of shared properties which set forth the resemblance between the topic and the vehicle are called the 'ground', while the other properties which definitely establish the differences between them are called the 'tension' (Richards, 1936).

In the present talk we are mainly interested in showing the difficulties encountered by researchers in explaining the comprehension of metaphorical sentences when language and meaning are assumed as separated from the other cognitive processes.

The new concept of meaning required can be conceived of as the product of the cognitive activity involved in making sense from our experiences in which the physical environment, other people, their beliefs and social exchanges, have a fundamental role as shown by recent evidence on cognitive processes. This interpretation compels us to go beyond the traditional boundaries of the linguistic realm toward the acknowledgement of the unitary and complex character of cognitive activity as suggested by the ecological approach.

#### - Metaphor as 'anomaly'

During the seventies, psycholinguists renewed their interest in metaphors thanks to the success of Chomsky's theory in promoting fruitful research on cognitive activity.

In his 1957 and 1965 linguistic theory, Chomsky held that the generative rules found in natural languages required a distinctive linguistic capacity, that there were differences between specifically linguistic and other cognitive abilities. In so arguing, he intended to stress the independence of the linguistic system from the other cognitive processes such as memory and perception. At the same time he established the logical priority of language in knowledge production (Greene, 1972). Language, in the broad sense which included information processing, could be the key to our cognitive activity, it could offer a new simple theoretical architecture with which mental work could be modeled (Lyons, 1970).

As to the study of metaphorical sentences, the subordination of semantics to syntax, on which Chomsky's theory rested, favored the consideration of metaphors as anomalous, defective sentences which could be explained only by the violation of some selection restriction rules (Katz & Fodor, 1963). The only way to explain a speaker's ability in comprehending metaphors and other deviant and anomalous sentences was to suggest that defective sentences could be reduced to a grammatical paraphrase through a set of entailment or transformation rules. According to this perspective, metaphors could be understood thanks to their literal counterparts.

The solution envisaged, however, was responsible for the deep conceptual change which affected psycholinguistic research a few years later when the fundamental role of semantics in comprehending language was definitely acknowledged.



Two aspects of Chomsky's solution helped this development. One was the distinction between literal and figurative or metaphorical language, and the other was the concept of anomalous or defective sentence.

At the end of the seventies, both the linguistic and the psycholinguistic approaches to the study of metaphors converged. It was assumed that metaphors could be comprehended only in relation to their literal equivalents and through a number of steps consisting in retrieving its literal meaning, in discarding it as nonsensical, and finally in grasping the figurative one. This common view helped to produce a great deal of experimental research based on the response latencies paradigm (see Hoffman, 1984 for a review).

The theoretical frame provided by Chomsky led to the rediscovery of both the study of cognitive processes and of metaphorical language, even though in an indirect way in the case of the latter as it was exactly the defective character of metaphors which made them interesting for psycholinguists.

The rise in the renewed interest in metaphorical language from the peculiar psycholinguistic perspective during these years has been parallel with the acknowledgment of the insufficiencies of the interpretations mainly based on the syntactic, the semantic, and the pragmatic dimensions of language.

#### - From 'anomaly' to conceptual re-organization

At the end of the seventies, when the sequential model of the human information processing approach was shown to be fairly inadequate for the interpretation of complex cognitive processes in need for much more

global accounts, the "anomaly" theory of metaphor comprehension began to elicit scholars' criticism from several converging perspectives.

The distinction between literal and metaphorical language, and the ensuing problematic distinction between literal and metaphorical meaning, began to be questioned (Gibbs, 1984; Dascal, 1987): both these uses of language require the same cognitive processing to be comprehended. The opportunity to explain metaphors on more articulated grounds than the mere anomaly thesis or the usually assumed syntactic approach became clearer day by day.

Even the analysis of the semantic features of words and concepts used in creating implicit resemblance in metaphors proved not to be strong enough a strategy to explain the metaphorical meaning of the sentences (Tversky, 1977; Ortony et al., 1985). The renewed interest in semantics and the acknowledgment of the role of meaning in comprehending language alerted scholars to the importance of both the linguistic and extralinguistic context in which metaphors are produced. Actually, it was shown that when metaphors follow a sentence acting as a linguistic or pragmatic context, they are understood more easily and more quickly than when they were presented as isolated sentences (Gildea & Glucksberg, 1983; Ortony, 1979).

Moreover, many sentences can be considered at the same time as literal or metaphorical and accordingly they can be understood only in relation to the specific extralinguistic context in which they are uttered.

At the same time Glucksberg and colleagues showed that the comprehension difficulties of metaphors to be judged true or false were not responsible for the time required by them to be responded to which was longer than that required by literal sentences. He argued that this



effect was due to the peculiar task subjects were engaged in. Actually there is an interference effect between the logical truth value of the sentences when used literally and their pragmatic truth value assumed as true by people who in comprehending them follow the Quality Maxim by Grice (1975).

The rejection of the thesis of the anomalous character of metaphors due to the mentioned developments, invited the new view according to which metaphors are to be conceived as conveying some cognitive re-organization. Federn Kittay observes:

'But if metaphors are cognitive it is not because they add to our store of factual data. It is because a metaphor causes us to think about something in a new way, to reorganize the concepts we already have, and to form new conceptualizations...This is because the conceptual incongruity, when appropriate pragmatic considerations are operative, requires a conceptual resolution (an at least tentative conceptual reorganization)' ( Federn Kittay, 1987, 75).

It is at this point that metaphors interpretation consists no longer in a mere linguistic analysis of the words expressed, but in the analysis of the concepts implied, thus establishing a new relationship between language and knowledge. However it is important to stress that the new approach required is feasible only if both meaning and comprehension are eventually re-defined.

#### - Toward an ecological approach to the study of metaphors

There are signs that the study of metaphors comprehension can help fill the gaps among perception, language, and experience sooner, and perhaps better, than the study of the literal use of language. However, it is becoming clearer and clearer that new perspectives are necessary to explain also how people understand literal language as really spoken in

everyday life. Comprehension, and hence meaning, are in need of a redefinition. Potter, Valian and Faulconer, studying mental representation of meaning, discovered that it is not verbal, as is usually assumed, nor imagistic. On the contrary, as they say:

' an abstract conceptual representation of the sentence was compared with a similarly abstract representation of the probe, whether the latter was presented as a word or a drawing' (Potter, Valian, Faulconer, 1977, 8).

Their experimental findings allowed them to state that the pragmatic implications of a sentence depend precisely on such an abstract, conceptual representation common to language and perception. This result marked the end of the primacy of language in modeling cognition, even though many researchers still refute this evidence.

From a different perspective, Clark and Marshall (1981) studying one of the most basic linguistic phenomena - definite reference - could not help but apply the pragmatic concept of mutual knowledge to explain it. Mutual knowledge refers to the speaker, the listener, and the objects referred to, as physically, linguistically, universally known within the community they belong to.

Rosh's theory of 'prototypes' (1975; Rosch & Mervis, 1975) acknowledged the graded structure of our partitioning of the world, thus providing natural concepts with a new flexibility due to the effect of 'typicality' and of 'goodness' of the exemplars and also helping to understand the vicarious nature of the meaning of the words used to express them.

More recently, Murphy and Medin (1985) advanced the thesis according to which cohesion can be achieved in conceptual structure only if there is a 'glue' among the concepts themselves from which cohesion arises. The 'glue' is not dependent only on shared features of similarity among



concepts; it presupposes that people have a general knowledge of the world so that a concept can be defined by both the attributes and relations shared by the single objects that are subsumed under that concept and by the attributes and relations that the peculiar concept shares with the other concepts in people general world knowledge. Also Barsalou (1987) studying categorization found that people can construct new categories on the spot which can be created to pursue novel goals: the so called 'ad hoc' categories. 'Ad hoc' categories share with the 'natural' and the so called 'goal-derived' categories a graded structure according to which there are exemplars of the category that are more typical than others. He argues that the flexibility exhibited by categories is a fundamental property of the human cognitive system.

#### - The ecological approach

These arguments on sentence representation, definite reference, concepts and categorization processes may be considered as an independent development of the theses held well before by the psycholinguists who had first set the program for a cognitive ecological psychology centered on the symbolic activity. It is worth mentioning the study by Bransford and McCarrell in which they originated a new perspective in the study of comprehension and meaning. Actually their position was the following:

'...one's knowledge of his environment is considerably richer than knowledge of the perceptual characteristics of isolated objects...perceptually derived knowledge entails knowledge of relations rather than things...Linguistic comprehension can also be characterized as 'the grasping of relations', linguistic comprehension depends upon the comprehender's cognitive, alinguistic ability to activate knowledge that will allow relations to be grasped. ( Bransford & McCarrell, 1974, 200).

In their view, language is comprehended thanks to the cognitive activity consisting in both defining the instructions for creating meaning and grasping the semantic content of sentences which produces their comprehension. As they put it:

'Ss do make cognitive contributions while comprehending... certain contributions are prerequisites for achieving a click or comprehension...knowledge of abstract constraints on entities and relations plays an important role in determining Ss' contributions... meaning is the result of such contributions and is best viewed as something that is 'created' rather than stored and retrieved' (Bransford & McCarrell, 1974, 201).

In sentence comprehension individual word perception is not the most important thing. Actually the same word may have many different senses according to the context in which it is embedded. Context, here, is meant in a very broad sense since objects are not identified as mere objects, instead they are understood relative to their roles in events. So there is no principled distinction in the processes needed in comprehending literal and metaphorical language: what matters is the event in which language takes place.

As the seminal researches on metaphor by Verbrugge and MacCarrell (1977) clearly show, the relation of similarity and resemblance on which metaphors rest can be best explained by assuming that the differing salience of the 'features' of the entities involved is a function of the particular event in which they participate, rather than by considering it as dependent on the specific context in which the metaphor is produced, be it linguistic or extralinguistic.

The problem of comprehension, as well as that of word meaning does not lie in widening the range of constraints, but in determining what



constraints need to be imposed on words to make sentences and metaphorical combinations interpretable:

'Language operates as an elaborate system of constraints that, among other things can guide the reinterpretation of types of experiences specified originally in perception and action... Metaphoricity is not a property of sentences as objects, but is a type of dynamic relation holding over utterances, language users and perceived or imagined settings. The risk in treating metaphors as a preeminently linguistic phenomenon is that a particular linguistic attitude is adopted: Meanings can be ascribed to sentence-objects abstracted from communication settings' (Verbrugge, 1979, 78-9).

Verbrugge's work pushes the redefinition of language and meaning still further: language and event perception are compatible and mutually supportive: comprehension may be conceived as a form of catalysis since event perception guides linguistic action as is shown not only by metaphor comprehension but also by deictic expressions. In this articulated system, metaphors are a catalyst for knowing since metaphorical processes can depend on language as well as on perceptual experience, coordinated movement and thought; all the cognitive functions are considered as accomplishing the mutual fitting between an organism and its environment. The reconciliation between the human biological organism and his physical environment is fully accomplished and language is one of the means through which it can be realized. As Verbrugge says:

'Linguistic actions are similar to other events that provide information for perception and action; a listener must become attuned to the natural relations between speech and social settings. In the case of language, the necessary attunements develop over years of talking and listening in a particular social environment, in which the natural relations between speech and setting are highly invariant and slow to change...in both linguistic and non linguistic events, the relation between indexes and listeners (or perceivers) is non arbitrary. Perception, thought, and action are all constrained in highly systematic ways...Language constrains users in non arbitrary ways' (Verbrugge, 1985, 180).

In this theoretical frame, language is no longer conceived as a formal, representational, mediated, arbitrary, system. It no longer establishes

a separation between the human being and his environment. On the contrary, it is the tool produced by evolution to realize more complex and abstract forms of fitting between them.

#### - Concluding remarks

At this very point it is clear that the required redefinition of comprehension as well as of meaning is achieved thanks to the definition of a naturalistic and biological view of human cognitive abilities. Several paths have been discovered in the long journey from a language based interpretation of cognitive processes to a cognitive interpretation of the different functions through which the mutual interdependence of human beings as biological systems and their environment is realized. This long and difficult course has been greatly helped by the study of metaphorical sentence comprehension which finally addressed the crucial aspects of language, thought and cognitive activity.

Meaning is actually constructed by the duality linking the perceivers to their physical and social environment. This duality sets the constraints according to which people act both physically and symbolically on the environment in a purposeful way. Perception, language, as well as the other cognitive resources to be properly understood have to be studied in their mutual interdependence which expresses the same interdependence between the organism and its environment.



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